

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) In an optical network, a method for providing differentiated services for a plurality of WDM layer applications, comprising:

transmitting user traffic over a range of wavelengths along a communication path in an optical network;

connecting network elements along the communication path via an optical supervisory channel, the supervisory channel being transmitted at a wavelength different than the range of wavelengths being used to transmit the user traffic;

transmitting control data for supporting a class of service (CoS) over the supervisory channel to each respective network elements, wherein said control data comprises protocol data units (PDU) transported over said supervisory network; and

executing a WDM layer application at each of the network elements to operate the network element according to the control data, wherein said step of transmitting control data comprises:

at a first network element,

generating an add supervisory PDU comprising CoS information destined to said WDM layer application operating at a second network element;

providing said add supervisory PDU with an identification tag;
forwarding said add supervisory PDU to an appropriate output port
queue;
queuing said add supervisory PDU according to said CoS information;
and
routing a plurality of said add supervisory PDU from different queues over
said supervisory network according to said CoS;

2. (cancelled).
3. (previously presented) A method as claimed in claim 1, wherein said control data provide one or more operating parameters of said WDM layer application.
4. (original) A method as claimed in claim 3, wherein said operating parameter is the internal priority level associated with said WDM layer application.
5. (original) A method as claimed in claim 3, wherein said operating parameter is the latency level for said WDM layer application.
6. (original) A method as claimed in claim 3, wherein said operating parameter is the acceptable loss level for said WDM layer application.
7. (original) A method as claimed in claim 3, wherein said operating parameter is the bandwidth for said WDM layer application.
8. (original) A method as claimed in claim 1, wherein said WDM layer application is one or more application selected from the network internal

applications including: laser safety shutdown, distributed internode control loops, out-of-band signalling channel, alarms, warnings, provision/configuration request, performance monitoring control, orderwire, and remote software download.

9. – 13. (cancelled).

14. (currently amended) A method as claimed in claim 44 1, wherein said step of transmitting control data comprises:

at a first network element,

- a) receiving a drop supervisory PDU comprising ~~QoS~~ CoS information;
- b) determining from an identification tag that said drop supervisory PDU is destined to said first network element;
- c) extracting said ~~QoS~~ CoS information from said drop supervisory PDU; and
- d) executing said WDM layer application according to said ~~QoS~~ CoS information.

15. (currently amended) A method as claimed in claim 44 1, wherein said step of transmitting control data comprises:

at a first network element,

- a) receiving a continue supervisory PDU comprising ~~QoS~~ CoS information;
- b) determining from an identification tag that said supervisory PDU is destined to a second network element of said communication path; and

c) transmitting said supervisory PDU over said supervisory network.

16. (original) A method as claimed in claim 15, wherein step (c) comprises:

extracting said ~~QoS~~ CoS information from said continue supervisory PDU;

forwarding said continue supervisory PDU to an appropriate output port queue;

queuing said continue supervisory PDU according to said ~~QoS~~ CoS information; and

transmitting a plurality of said continue supervisory PDU from different queues according to said Cos.

17. – 35. (cancelled).

36. (new) In an optical network, a method for providing differentiated services for a plurality of WDM layer applications, comprising:

transmitting user traffic over a range of wavelengths along a communication path in an optical network;

connecting network elements along the communication path via an optical supervisory channel, the supervisory channel being transmitted at a wavelength different than the range of wavelengths being used to transmit the user traffic;

transmitting control data for supporting a class of service (CoS) over the supervisory channel to each respective network elements, wherein said control data comprises protocol data units (PDU) transported over said supervisory network; and

executing a WDM layer application at each of the network elements to operate the network element according to the control data, wherein said step of transmitting control data comprises:

at a first network element,

receiving a drop supervisory PDU comprising CoS information;

determining from an identification tag that said drop supervisory PDU is destined to said first network element;

extracting said CoS information from said drop supervisory PDU; and

executing said WDM layer application according to said CoS information.

37. (new) A method as claimed in claim 36 wherein said control data provide one or more operating parameters of said WDM layer application.

38. (new) A method as claimed in claim 37, wherein said operating parameter is the internal priority level associated with said WDM layer application.

39. (new) A method as claimed in claim 37, wherein said operating parameter is the latency level for said WDM layer application.

40. (new) A method as claimed in claim 37, wherein said operating parameter is the acceptable loss level for said WDM layer application.

41. (new) A method as claimed in claim 37, wherein said operating parameter is the bandwidth for said WDM layer application.

42. (new) A method as claimed in claim 36, wherein said WDM layer

application is one or more application selected from the network internal applications including: laser safety shutdown, distributed internode control loops, out-of-band signalling channel, alarms, warnings, provision/configuration request, performance monitoring control, orderwire, and remote software download.

43. (new) In an optical network, a method for providing differentiated services for a plurality of WDM layer applications, comprising:

- transmitting user traffic over a range of wavelengths along a communication path in an optical network;

- connecting network elements along the communication path via an optical supervisory channel, the supervisory channel being transmitted at a wavelength different than the range of wavelengths being used to transmit the user traffic;

- transmitting control data for supporting a class of service (CoS) over the supervisory channel to each respective network elements, wherein said control data comprises protocol data units (PDU) transported over said supervisory network; and

- executing a WDM layer application at each of the network elements to operate the network element according to the control data, wherein said step of transmitting control data comprises

 - at a first network element,

 - receiving a continue supervisory PDU comprising CoS information;

 - determining from an identification tag that said supervisory PDU is destined to a second network element of said communication path; and

 - transmitting said supervisory PDU over said supervisory network.

44. (new) A method as claimed in claim 43, wherein said control data provide one or more operating parameters of said WDM layer application.

45. (new) A method as claimed in claim 44, wherein said operating parameter is the internal priority level associated with said WDM layer application.

46. (new) A method as claimed in claim 44, wherein said operating parameter is the latency level for said WDM layer application.

47. (new) A method as claimed in claim 44, wherein said operating parameter is the acceptable loss level for said WDM layer application.

48. (new) A method as claimed in claim 44, wherein said operating parameter is the bandwidth for said WDM layer application.

49. (new) A method as claimed in claim 43, wherein said WDM layer application is one or more application selected from the network internal applications including: laser safety shutdown, distributed internode control loops, out-of-band signalling channel, alarms, warnings, provision/configuration request, performance monitoring control, orderwire, and remote software download.